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A view of Lafayette Square and business district of New Orleans, showing the Mississippi River in the background

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THE JOURNAL OF GEOGRAPHY

A MAGAZINE FOR SCHOOLS

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Mr. Freeman is teacher of geography in the State Normal School, Cheney, Washington. During 1926-27 he was Acting Professor of Geology and Geography in the University of Hawaii, Honolulu, T.H. He has contributed several articles to the *Journal of Geography,* including "Commercial Geography in a Montana High School," January, 1921; "The Use of Motion Pictures in Commercial Geography," January, 1923; "Two Dozen Causes for the Location of Blast Furnaces and Steel Mills," April, 1923; and "Geographic Provinces of Argentina," November, 1925.

Following this article is a series of "tests" prepared under the direction of Associate Editor L. L. Lackey. These have been prepared as an aid to teacher and student, and are the first of a series of "notes, tests, and suggestions" now being developed under his supervision and which will appear during the coming year. They will assist the teacher in more effective use of the abundant material published in the *Journal.* We will appreciate receiving your comments.

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VOLUME XXVII APRIL, 1928 NUMBER 4

THE PEOPLING OF HAWAII

O. W. FREEMAN
State Normal School, Cheney, Washington

Hawaii, a territory of the United States since 1898, situated just within the tropics in the North Pacific, constitutes a most interesting racial and geographic study. The eight inhabited islands extending from the northwest to the southeast are Niihau, Kauai, Oahu, Molokai, Lanai, Maui, Kahoolawe and Hawaii. The group has an area of 6,454 square miles—between Connecticut and New Jersey in size—of which the island of Hawaii makes up 60 per cent. A typical island consists of one or more lava domes built high above the sea and deeply furrowed by steep sided valleys. There is rich alluvial soil in the valleys and on narrow plains in front of the mountains. If the island has two domes, as Oahu and Maui, there is a central plain of fertile residual and alluvial soil. The basaltic lava weathers readily to a reddish soil called laterite that caps the lava slopes between the deep valleys. The lower parts of such slopes are often intensively cultivated as on Hawaii. Some lowland areas, as on Oahu, consist of uplifted coral reefs. Originally nearly the whole of the islands was forested, but now forests are restricted chiefly to the mountains where they are of much value in conserving water for irrigation. Of the 4,130,000 acres on the islands only 10 per cent is in crops and only 750,000 can ever be cultivated. Part of the balance is used for pasture but must always be very thinly populated. The rainfall of the islands averages 80 inches annually, but as the larger islands are mountainous and all lie in the northeast trades, there are great differences between the windward side where the rainfall may exceed 300 inches a year and the leeward side where it may be as low as 10-30 inches. Altho south of the Tropic of Cancer, the islands are so far from any continent that extremes of temperature are unknown. The temperature averages 71° F. and is uniformly mild thruout the year.

THE HAWAIIANS

The Polynesians, which includes the Hawaiians, are supposed to have come from somewhere in southeastern Asia early in the Christian Era, and to have sailed to Fiji by two routes, some passing thru the Malay Archipelago and others coming by way of the Caroline Islands. From Fiji they settled Samoa, Tonga and Tahiti and from there spread to other islands. In the fifth century A.D. a group settled in Hawaii, which was wholly uninhabited pre-

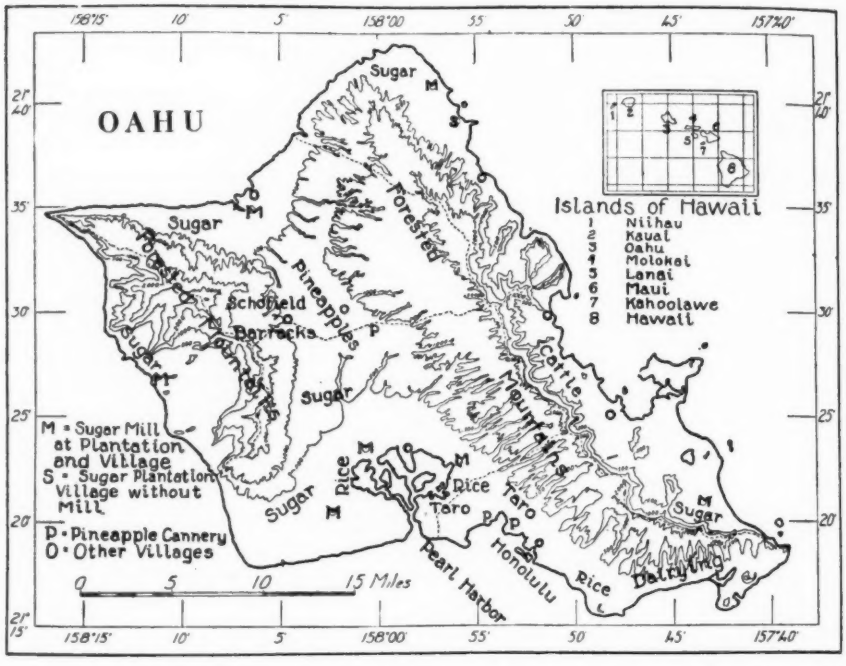

FIG. 1. Map of Oahu, with inset showing other islands of the Hawaiian group. Note the location of Honolulu, sugar mills and plantation villages on the coastal plain and central lowland.

viously, where they remained comparatively unknown until the eleventh century when several parties arrived from the Marquesas, Society, and Samoan islands. For a century or two frequent intercourse was maintained between these groups. Then the islands were forgotten until rediscovered by Captain James Cook in 1778. Usually invaders drive weaker peoples to remote regions, but the Polynesians passed directly thru inhabited islands to remote uninhabited ones, and made journeys of thousands of miles across the open Pacific in their sturdy outrigger canoes during a time

when Europeans feared to venture out of sight of land in the Atlantic. Certainly the Polynesians who made the journey must have been a fearless, sturdy, capable race. Whether the first Hawaiians were blown to the islands in a storm, were in need of more land, or simply in search of adventure is unknown. To reach Hawaii from the south a sailboat must tack against the trades much of the way. The long voyages were favored by it being possible for outrigger canoes to tack against the wind, by this part of the Pacific being free of dangerous storms most of the year, and the fact that considerable supplies can be carried on the larger canoes.

The Pacific islands lacked suitable indigenous foods, and the Hawaiians had to introduce most of their foods, as taro, sweet potatoes and yams, breadfruit, pandanus and the best bananas and coconuts. The Hawaiians ate some wild fruits and the fleshy parts of ferns and seaweed. Fish and shell fish were a valued article of diet but were not really abundant. As a result many artificial fishponds were built along low, reef protected shores, in which mullet were bred. Dogs and hogs could be carried in canoes, so were introduced, but were always scarce and mostly used for food at festivals or reserved for the chiefs. Almost without exception the Hawaiians lived in villages along the sea or within a short distance of it. Such navigators, swimmers and fishermen as they do not feel at home out of sight and sound of the surf. The interior plains and mountains had almost no permanent inhabitants. There were trails over the mountains but communication was usually by sea. Each valley usually had its village and even today each stream valley is usually a separate district. The township and range system of land surveying has never been applied to Hawaii. The ownership of land was nominally vested in the chiefs who gave their subjects the use of sections of it. Each family desired a narrow segment fronting on the sea and running back to the mountain top. This gave them fishing privileges, low land on which taro could be grown, higher land for yams, bananas and pandanus, and the mountains for timber, some nuts and fruits and birds which furnished feathers desired for cloaks and decorative purposes. Their house was built of a thatch of grass, or of coconut, or pandanus leaves, laid skillfully over a framework of poles. Woven mats of leaves were used for sleeping and floor coverings. Tapa cloth was made from the inner bark of trees but not much clothing was needed. Weapons and utensils were made

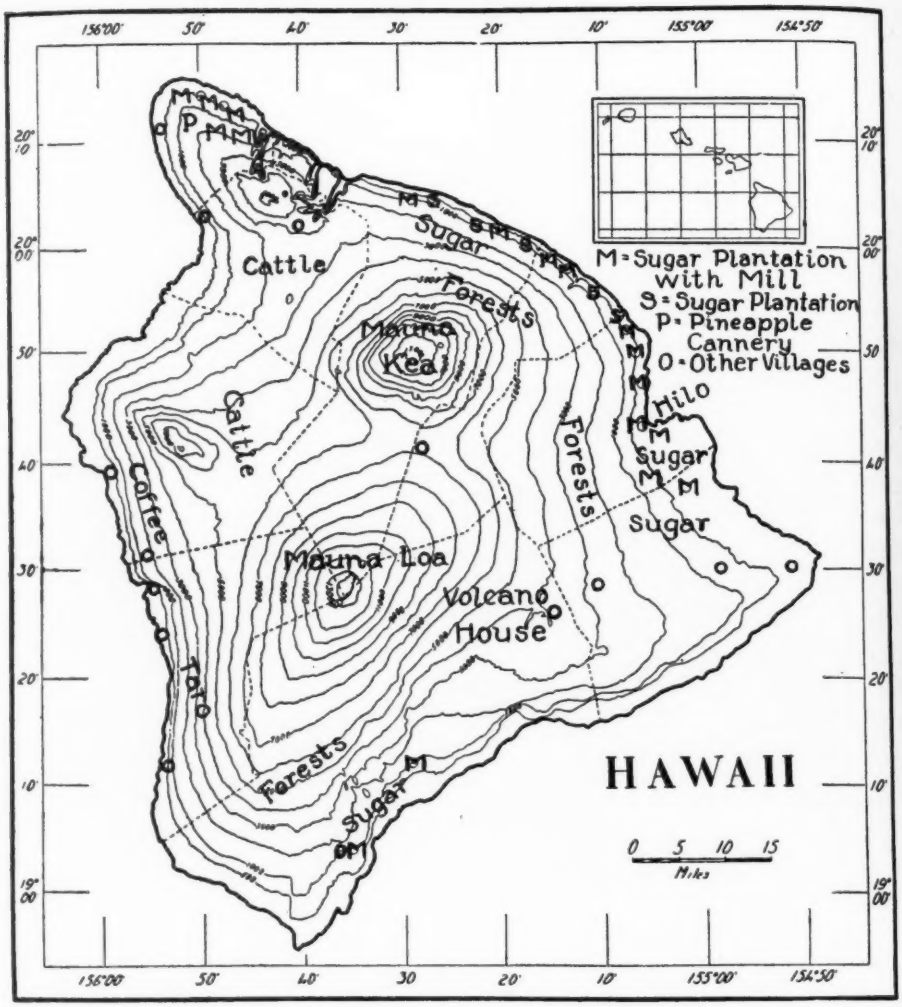

FIG. 2. Map of Hawaii. Note that the great majority of the sugar plantations with their mills and villages are on the rainy windward coast. On Hawaii most of the sugar is raised without irrigation, while on the other islands the largest plantations are on the dry leeward side of the islands which requires the cane to be irrigated at much trouble and expense, which is however, rewarded in the better yields obtained.

of wood, stone and bone. When Captain Cook discovered the islands he estimated their population at about 300,000, altho this may have been too liberal a guess.

SETTLEMENT AND INDUSTRIES OF HAWAII, 1778-1875

One hundred and fifty years ago Hawaii was not a united country. There were half a dozen powerful chiefs and several minor

ones who unfortunately were frequently at war with each other. After Cook's discovery ships engaged in the fur trade began to stop at the islands for water and food and a few sailors settled there. With the assistance of two Americans who handled some small artillery, Kamehameha, king of northern Hawaii, waged successful war on the other chiefs of Hawaii and of Maui and Oahu,

FIG. 3. This is the only grass hut left on Oahu and they are very rare on the other islands. Most Hawaiians live in ordinary wooden houses. The picture was taken several years ago. The woman still lives in the hut but the man is dead. It shows them pounding taro root to make poi in the old way. Taro is growing in the right hand foreground. Homemade poi bowls of wood are by the poi board and nearly everything about the hut is homemade. Photo by R. J. Baker, Honolulu.

and by 1795 had conquered all the islands except Kauai and Niihau which later peacefully accepted his rule. While this united all Hawaii under one rule, thousands of men had been slaughtered in the wars from 1782-1795 and many women and children had died of starvation and destitution. With peace, Kamehameha proved a wise ruler and encouraged agriculture and foreign trade. Beginning about 1800 and lasting for 30-35 years sandalwood was

a very important export. Ships trading for furs on the northwest Pacific Coast stopped in Hawaii for water and fresh food, and added sandalwood to their cargo before sailing for China. In 1804 the king moved his residence to Waikiki and Honolulu began to be a well known seaport, and merchants began to settle in the islands. Unfortunately foreign ships brought disease and cholera, small pox, measles, consumption and blood diseases wiped out great numbers of the people. New England missionaries arrived in 1820. They reduced the Hawaiian language to writing, taught many to read and were most successful in Christianizing the Hawaiians. Descendants of the missionaries are today among the leading merchants, planters and professional men in the territory. Unfortunately the Hawaiians themselves continued to decrease in numbers.

Whaling vessels began to call at Hawaii in 1820 and the industry replaced the sandalwood trade as by the thirties the sandalwood had been almost destroyed by careless methods. Whales were common in this part of the Pacific and the islands were also a convenient outfitting point for the whalers who plied their trade off Japan and toward the Arctic. The first census of the Hawaiian kingdom was taken in 1832 and showed 130,313 inhabitants. Another in 1836 showed 108,579. In 1840 Honolulu had a population of 7,000-8,000, including 600 foreigners, and there were substantial business houses. The Hawaiians still lived mostly in grass huts. Americans were prominent members of the king's cabinet. About 1840 land laws were passed that divided the land one-third each to the king, chiefs, and people. This encouraged greater individual initiative in ranching and agriculture and Americans and other foreigners began to acquire large tracts of land by marriage and purchase.

Whaling in Hawaii lasted until 1880. It was of most importance from 1840-1860 during which years the economic prosperity of the islands depended almost wholly upon whaling. Honolulu on Oahu and Lahaina on Maui were the chief centers, altho some boats would outfit at Hilo on Hawaii or other ports. The ships purchased beef, pork, fresh fruits and vegetables, and ships stores imported to supply them. From 400 to 500 whaling ships, mostly American, called yearly at the islands for supplies until the Civil War. Hawaiians are good sailors and many joined the crews of the whalers, part of whom never returned. The population continued to decline and in 1853 there were 73,138 people with 2,119

foreigners; in 1860, 69,800 with 2,716 foreigners, and, in 1866, 62,959 of whom 4,194 were foreigners. While a few foreigners were ranchers most of them lived in Honolulu and were engaged in commerce or the professions. There were as yet no plantations. Most Hawaiians still lived in grass huts and raised taro and yams for food much as they had always done. The ranches kept cattle and sheep and exported their hides and skins and sold meat to the whalers. The ranches were located on the upper slopes of the high lava domes and on the leeward side of the islands or on low peninsulas and smaller islands where the rainfall is moderate and grass rather than trees grew.

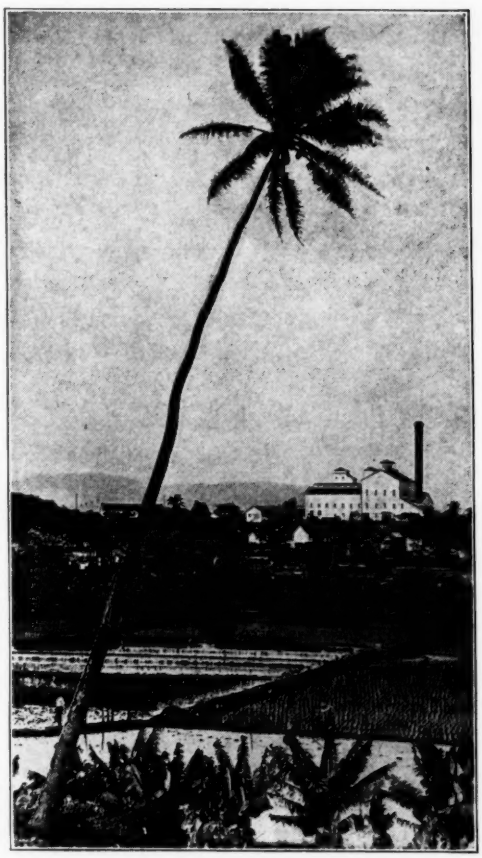

FIG. 4. Waipahu Sugar Mill, Island of Oahu. The scene is characteristic. There are coconuts and bananas in the foreground, then the rice patches with Chinese plowing the muddy ground and transplanting baby rice plants, then taro and more bananas intermixed with the houses of the plantation workers, and dominating all the rest is the great sugar mill.

THE EFFECT OF PLANTATIONS

With the decay of the whaling industry, there was great need of some money producing industry to take its place. Sugar seemed to offer the best possibilities but the American tariff was a barrier to its development. After several fruitless efforts a reciprocity treaty was signed with the United States in 1776 providing for free trade between the countries. This treaty was later extended by Hawaii leasing Pearl Harbor to the United States as a naval base. The effect of the treaty was most important and led to the development of vast sugar plantations and to a less extent of rice planting. Planta-

tions need labor and during 1865, 500 Chinese coolies were brought in. Some Chinese began to arrive as early as 1852. Unfortunately the Chinese brought in leprosy and by 1872 there were 800 lepers in the islands, and an isolated peninsula on the north side of Molokai was selected for their segregation.

A census was taken in 1872 and showed 56,897 people of whom 51,531 were Hawaiian, and the rest foreign or born in Hawaii of foreign parents. About 1875 was the lowest ebb of the population. While the Hawaiians, and part Hawaiians, continued to decrease until 1910, immigration caused the total population to steadily in-

FIG. 5. The sugar and pineapple plantation laborers are mostly Filipinos and Japanese. Both men and women work in the fields. Photo by R. J. Baker, Honolulu.

crease to the present. The Hawaiians were thus largely replaced by aliens. In the seventies Honolulu, the capital and chief commercial and educational center, was a city of 15,000 people including 2,000 to 3,000 foreigners. Hilo had replaced Lahaina as the second city.

The reciprocity treaty led to a great demand for laborers in the sugar plantations and from 1877-1890 more than 55,000 immigrant laborers were admitted, over one-half of whom were Chinese, and nearly one-fourth Portuguese. One hundred forty-eight Japanese entered in 1868, but no more arrived until 1885 when 2,000 were brought in, and the numbers of this race from then on increased

rapidly. In 1890 there were 90,000 people in the islands and it was ready to become a melting pot of nations. There were then 41,000 Hawaiians, 15,000 Chinese, 12,000 Japanese, 9,000 Portuguese, 2,000 Americans, 1,300 British and 1,000 Germans.

The sugar industry caused the development of the central plains, and lower, once forested, mountain slopes that the Hawaiians had scarcely used. Great irrigation projects caused dry lands

FIG. 6. A Portuguese-Hawaiian girl. Photo by R. J. Baker, Honolulu.

to be planted to cane where only a few cattle had grazed previously. Little cane is grown by small farmers. It is produced almost wholly on large plantations, each with its own mill and village for the workers. There are 41 such plantations on the islands and a few small ones growing cane that is ground by their neighbors. All the buildings are constructed by the companies, and the villages are complete with stores, garages, hospital, school, etc. The big mill dominates the rest. Wages seem low, $1.10 a day up, but

house rent and some other things are free and it costs little to live. The sugar plantations are on the coast and central plain of Oahu and Maui, the slopes of windward Hawaii up to 1,000 feet elevation, and the larger valleys and gentler slopes in Kauai. In these places are found the 47 sugar plantation villages containing nearly 50,000 laborers many of whom have a wife and children. One-third the population of the territory lives in such villages.

FIG. 7. Japanese children in Honolulu

The pineapple industry began in 1903 and while some pineapples are grown by small farmers and sold to the canners, most of the fruit is grown by the plantation system, and several villages for the workers are located in the pineapple fields, which are mostly at a higher elevation than the sugar cane lands. Sugar cane is bulky and must be ground close to the cane fields, but pineapples can be shipped long distances by railroads, trucks and barges. Hence the three largest canneries are in Honolulu where there is abundant labor for the three months' canning season without its being especially provided, and which has the best shipping facilities for export. The pineapples are grown chiefly on lands at altitudes of 1,000 to 2,000 feet on Oahu, Maui, Lanai, Molokai, Kauai and a few on Hawaii.

Hawaii was annexed to the United States in 1898 when it was needed as a naval outpost. Since then in efforts to rehabilitate the Hawaiian race various homesteads have been started, especially on Molokai and Hawaii, to get the Hawaiians back on the land.

These have been moderately successful. In the Kona district of Hawaii independent Japanese farmers have made a success of coffee farming. In such places scattered farm houses are found as on the mainland, but the bulk of the farm laborers live in plantation villages.

RACIAL COMPOSITION OF THE INHABITANTS

With the development of the sugar business the population rapidly increased due to the influx of laborers. There were 109,020 in 1896; 191,909 in 1910; and 255,912 in 1920. The population certainly exceeds 300,000 now and is expected to reach 350,000 by 1930. According to the census of 1920 the territory has extraordinary racial complexity as shown by the following table:

Hawaiian	23,723	Other Caucasian	19,708
Caucasian-Hawaiian	11,072	Japanese	109,274
Asiatic-Hawaiian	6,955	Korean	4,950
		Filipino	21,031
Caucasian		Negro	348
Portuguese	27,002	All other	310
Porto Rican	5,602		
Spanish	2,430	Total	255,912

Of the "other Caucasians," 10,816 were born in the United States and many of the balance are of American parentage.

Under the Kingdom so many Chinese entered that it was feared the islands would become a Chinese colony and their entrance was restricted in the eighties. Japanese began to enter in large numbers in 1885. Some Korean and Porto Rican laborers were secured from 1900 to 1910. Portuguese, especially from the Azores and Madiera Islands, were secured for laborers in the seventies and eighties but it was expensive to bring them in and the efforts were abandoned, which is unfortunate, as they make good citizens. After annexation objections arose to unrestricted immigration of Japanese and, since the gentlemen's agreement of 1907-1908, the new laborers needed have been secured mostly from the Philippines. White labor is not found on the plantations except in places requiring special skill or supervising capacity.

Men laborers usually come without their women and as a result in 1920 males constituted about three-fifths of the population. Many Chinese and Portuguese, and some other Europeans and Americans settling permanently in the islands married Hawaiian girls. Most of the children from such mixed marriages are of

good physical and mental types. The Chinese-Hawaiian has the acumen of the Chinese and the physical build of the Hawaiian, and is generally an improvement over the pure native. No one can look at the picture of the Portuguese-Hawaiian girl (Fig. 6) and think that she lacks mentality or physical attractiveness. The Japanese and Filipinos have as yet intermarried little with other races, but one must wait another generation before concluding that Japanese will not intermarry with other races in Hawaii. It remains to be seen whether the young generation, educated in American schools, will retain old marriage customs or break away from them and freely intermarry as the other races do.

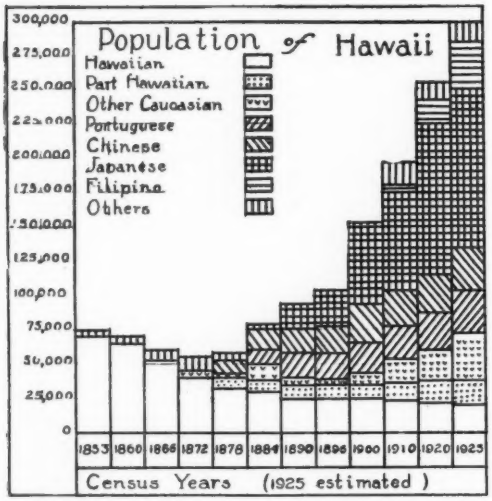

FIG. 8. Chart showing the racial complexion of the population of Hawaii at different dates from 1853-1925

The Hawaiians are usually said to be a vanishing race, but such a generalization is not strictly true. Probably the pure Hawaiian is doomed and their number will continue to decline, but persons of mixed Hawaiian blood are increasing so rapidly as to more than take their place. Hawaiians and part Hawaiians increased 891 from 1900 to 1910, and 3,203 between 1910 and 1920. Hawaiian blood will not vanish but will become fused with that of other races and will contribute something of advantage to the now forming new Hawaiian racial type.

DISTRIBUTION OF POPULATION

As their term of employment ends on the plantations there is a tendency for many laborers to settle in the cities of Honolulu and Hilo. Especially is this true of the second generations of the groups that provided the first plantation laborers. Sixty per cent of the Chinese, 40 per cent of the Portuguese, 40 per cent of the Hawaiians, 55 per cent of the part Hawaiian, and two-thirds of the other Caucasians live in Honolulu and Hilo, which combined

are about 40 per cent of the population. Seventy-five per cent of the Japanese, 90 per cent of the Filipinos, and most of the Koreans and Porto Ricans are plantation laborers. Sixty per cent of the pure Hawaiians live in the country, most of them on their own plots of ground.

In 1920 the density of population in Hawaii was 40 per square mile. The governor estimated the population in 1926 at 325,000, which would be 50 per square mile, considerably above the average for the mainland United States. More than 100,000 of the present population live in Honolulu and 12,000 in Hilo. Thus more than one-third the population is urban. There were, in 1920, 111,882 persons engaged in gainful occupations; 38,757 were laborers on sugar plantations, and 2,917 on pineapple farms. In 1926 the sugar plantations employed 49,000 people of whom 24,000 were Filipinos and 13,000 Japanese. Many are also employed in sugar mills and pineapple canneries, or in office work connected with these industries, hence it is safe to say that half the inhabitants are supported directly by these two industries. Fully one-third the population lives in plantation villages. The balance of the population, somewhat less than one-third, resides on small farms, seaport towns and in non-plantation villages.

The average elevation of the islands is about 1,500 feet, but more than 90 per cent of the population lives under 1,000 feet elevation on the coastal and central plains and lower mountain slopes. Except for a few ranches the upper mountain slopes have few residents.

Position of Caucasians

Efforts have been made to attract Americans, or northern Europeans, onto the land as laborers, but with scant success. The place of the white man in Hawaii is as a manager of dark skinned laborers, and in this capacity he has attained remarkable success. There is a limit, however, to the number who can be employed in this capacity. Several thousand whites born in Hawaii are now living on the mainland, especially California, where there are better chances for the non-monied worker. An American will not lower his standard of living to compete with Orientals. Hawaii is a most delightful place for the tourist, the sojourner, the retired business man, and the plantation owner, but offers few opportunities for a poor man. A few large commercial houses and corporations, mostly owned by the descendants of old time mis-

sionary and merchant families, control nearly the whole of the large business of the islands, and the plantation system, rather than small farms, has proved to be best for the land owners here in the sub-tropics.

Hawaii is an old settled land compared with many western states. One commercial house has been in existence over a century. Honolulu contains the oldest Masonic lodge west of the Mississippi River. Punahou School, a prosperous private institution, was opened in 1842, and children of the California gold seekers were sent there for education before the Civil War.

FIG. 9. Honolulu. The view is from Punchbowl, a volcanic crater, and shows the harbor and main business part of the city.

HONOLULU

Honolulu is a modern built city and at first the visitor sees little difference between it and any seaport of 100,000 population on the mainland, except for the tropical verdure and steep, jagged mountains rising above it. There are the same substantial office buildings, paved streets and street cars. However, there are few factories and very few apartment houses, and the city is spread out over a great area as people live in separate houses, usually widely spaced, with roomy, shaded lawns. The city owes its importance to an excellent harbor, partly man made, on leeward Oahu. The only better natural harbor in the group is Pearl Harbor, the United States naval base, a few miles from Honolulu. The

"harbors" on the other islands were merely convenient roadsteads where ships anchored to load sugar and other products. Hilo on Hawaii and Kahalui on Maui have, however, now been improved by breakwaters and wharves so that ships can dock there. Honolulu is a transshipping point for some island products but owes its chief fame to being at the "Crossroads of the Pacific." It is 2,080 miles to San Francisco, 2,400 to Puget Sound, 2,230 to Los Angeles, 4,660 to Panama, 3,850 to Auckland, 5,915 to Valparaiso, 4,420 to Sydney, 4,980 to Hongkong, 3,440 to Yokohama and 4780 to Manila. It is the only large city, best supply center and greatest source of freight and passengers, between the distant ports just mentioned, and while somewhat off the great circle route, from the Mainland

FIG. 10. Aiea Sugar Mill on Oahu. Pearl Harbor, the naval base, is in the background and sugar cane in the foreground. Below the mill is the village of the mill and plantation laborers.

to Asia, is, nevertheless, served by 24 commercial and two military steamship lines.

EDUCATION

In the schools, teachers of Hawaii have a great problem in the Americanization of children, many of whose parents, coming from the Orient or elsewhere, never learned to speak English. In 1925-26 there were 58,860 children in the public schools of Hawaii and 9,671 additional in the private schools. More than half of the public school students last year were American citizens of Japanese ancestry. The percentage of Japanese children is increasing rapidly and by 1936 it is expected that there will be 75,000 children in the public school of whom 50,000 will be of Japanese ancestry. In 1925-26 there were 5,978 pupils classified as part Hawaiian,

5,859 as Portuguese, 5,649 Chinese, 3,465 Hawaiian, 2,300 Filipinos, 2,101 Anglo-Saxons, 1,149 Koreans, 1,047 Porto Ricans, 292 Spanish and 292 others. In the private schools 1,714 are Anglo-Saxons, 2,179 Japanese and the rest other races. Practically all the pupils in the public schools are native born, less than 1,500 being foreign born.

The rapid increase of Hawaiian born Japanese clearly indicates that the Japanese will soon compose one-half the population, and when the younger generation born in Hawaii reach maturity, voters of Japanese ancestry will be in the majority. The teachers' problem is to so train these future citizens that they will be patriotic Americans. I believe that this is being done and that America should not fear that an expected preponderance of persons of Japanese descent will wreak havoc in the Territory. In none of the schools could I observe any racial prejudice or animosity. Ability, and not race, determines members of athletic and debating teams, and election to school offices. Hawaii gives an example of racial tolerance that our mainland states could well follow. For advanced education the Territory provides a University and a Normal School and is now training the majority of its own teachers.

SUMMARY

Among the factors that have led to the settlement of Hawaii may be mentioned:

1. Need for new land, and perhaps love of adventure, by the original Hawaiians whose knowledge of navigation permitted them to reach the islands.

2. Missionaries came from a desire to Christianize the Hawaiians.

3. The islands contained sandalwood and were near whaling grounds, causing them to become a port of call and outfitting station, with resulting establishment of a merchant class. Winds favored the sailing ships, engaged in trade, stopping at the islands.

4. Favorable climate and abundant forage cause man to establish ranches.

5. Climate and soil favored tropical money crops like sugar and pineapples, and the skill to manage these industries was possessed by the sons of early missionaries, merchants and ranchers.

6. The sugar industry required abundant cheap labor, and Chinese, Portuguese, Japanese, Koreans, Porto Ricans, Filipinos and

others were imported as laborers. At the end of their contract to work many remained in the islands and became small merchants and farmers.

7. Location in the north Pacific makes the islands a convenient port of call, and supply station for liners between the Pacific Coast and Australia and the Orient. Abundance of freight, and fine scenery and climate, makes stops advisable for both cargo and tourists.

8. Volcanoes, mild climate and scenery are bringing many tourists and permanent residents.

9. Hawaii is an army and naval outpost of the Pacific Coast, and nearly 20,000 soldiers and sailors are quartered permanently near Honolulu.

10. Since early times as a kingdom, republic, or territory, the government has protected life and property and encouraged commerce. First the reciprocity treaty with the United States, and now the national protective tariff, aid Hawaii's industries and thereby encourage increase of population.

NOTE: After you have read this article carefully, try the test on page 141. Do not look at the test until you have completed the reading.—EDITOR.

SOME ACHIEVEMENT TESTS ON THE "PEOPLING OF HAWAII"

The following study material was prepared by Grace Young, Janet Younkin and Winona King, teachers in the Public Schools, Beatrice, Nebraska.

Do not look at these tests until after you have read the article on "The Peopling of Hawaii." These exercises are given here so you may test your ability to grasp the essentials of what you have been reading, and also to suggest a method that may be used with children in the teaching of textual or supplementary reading matter in geography.

Remember, such a test is not one to be applied by the teacher to the pupil, but one for the pupil to apply to himself. If a series of such tests covering a semester or quarter of work in geography are given, the interest of pupils may be increased by having each one keep for himself a progressive graf of his achievement.

I

The statements given here are either true or false.

Put a plus sign (+) before each statement that is true and a zero (0) sign before each statement that is false. *Do not guess.*

(....) 1. Hawaii is a territory belonging to the United States.
(....) 2. Molakai is the largest island of the group.
(....) 3. The forests are of little value to the natives.
(....) 4. All of the islands receive plenty of rain.
(....) 5. Extremes of temperature are unknown.

(....) 6. The Polynesians were a cowardly people.
(....) 7. Few supplies can be carried on outrigger canoes.
(....) 8. Little is known of the early history of the Hawiians.
(....) 9. Plenty of food plants were found on the islands.
(....) 10. Breadfruit was a native plant.
(....) 11. Fish could not be supplied in abundance.
(....) 12. The Hawaiians use the same system of surveying as used in the United States.
(....) 13. Woven mats are used for sleeping and for floor mats.
(....) 14. Weapons and utensils were manufactured in the United States.
(....) 15. Each person owned his own land.
(....) 16. Half the inhabitants of Hawaii are supported by the sugar mills and pineapple canning industry.
(....) 17. One-third of the population lives in plantation villages.
(....) 18. The plantation system is best for landowners.
(....) 19. The mountain slopes are densely populated.
(....) 20. One-half the population is urban.
(....) 21. There are more Japanese than Filipinos in Hawaii.
(....) 22. Americans and Northern Europeans are anxious to go to Hawaii as laborers.
(....) 23. White men make good managers of Hawaiian laborers.
(....) 24. Many native born Hawaiians go to California for better advantages.
(....) 25. Hawaii offers great opportunities for the poor man.
(....) 26. An American cannot well compete in labor with Orientals.
(....) 27. Hawaii is a comparatively newly settled land.
(....) 28. The largest Masonic lodge west of the Mississippi River is in Honolulu.
(....) 29. Before the Civil War wealthy people of California sent their children to Hawaii to be educated.
(....) 30. Honolulu is a modern city.
(....) 31. There are many factories and apartment houses.
(....) 32. The city is congested.
(....) 33. There are more Japanese than any other nationality in the schools of Hawaii.
(....) 34. There is much racial prejudice and animosity in the schools.
(....) 35. Ability is not recognized in athletics or debating teams.
(....) 36. Hawaii has a University and Normal School for training their own teachers.
(....) 37. One hundred and fifty years ago Hawaii was a united country.
(....) 38. There were half a dozen powerful chiefs and several minor ones who were at war with each other.
(....) 39. After Cook's discovery fur traders began to stop for food.
(....) 40. A few sailors settled there.
(....) 41. Kamehameha was a wise ruler.
(....) 42. He did not encourage agriculture and foreign trade.
(....) 43. Sandalwood was an important export.
(....) 44. Foreign ships brought diseases.
(....) 45. Hawaiians are increasing in large numbers.
(....) 46. Whaling industry replaced sandalwood.
(....) 47. Hawaiians live in sod houses.
(....) 48. Americans purchased large tracts of land.
(....) 49. There were large plantations.
(....) 50. The American tariff formerly was a barrier to sugar industry.

II

Fill in blanks so as to make each statement a complete and true sentence.

1. Hawaii was not a united country ..... years ago.
2. Fur traders stopped at the island for ..... and water.
3. A few ..... settled there.
4. Many women and children died of destitution and .....
5. Kamehameha encouraged agriculture and ....
6. Foreign ships brought cholera, ... and .....
7. Hawaiians still live mostly in ..... huts.
8. Land laws divided the land one-third each to king, ... and .....
9. Americans and foreigners acquire large tracts of land by ..... and .....
10. Most Hawaiians raised taro and .....
11. Ranches raise cattle and export hides and ..... and .....
12. Best money producing industries are .....
13. Chinese brought in .....
14. The central plains were developed thru the ..... industry.
15. Sugar cane lands are in the .....
16. There are ..... islands in this group.
17. Rich soil is found .....
18. Forests are to be found .....
19. In 1778 the islands were rediscovered by .....
20. Communication was usually by .....
21. The chief industries of Hawaii are ..... and .....
22. One-third of the population lives in .....
23. Honolulu has the largest .... west of the Mississippi River.
24. Honolulu owes its importance to its excellent .....
25. It is a transshipping point for some island products but owes its chief fame to being at the .....

III

One word in each of the following statements makes it true. Put a line under the one word that makes the statement true. *Do not guess.*

1. Hawaii belongs to England, Asia, United States.
2. The natives originally came from Africa, Asia, South America.
3. Hawaiians first made their homes in the forests, on the plains, along the sea.
4. Their houses are built of wood, thatch, grass, brick.
5. Cloth was made from silk, wool, bark.
6. The largest pineapple canneries are in Hilo, Hana, Honolulu.
7. Hawaii was annexed to the United States because we needed the sugar, a naval outpost, coal.
8. A large percentage of the pure Hawaiians live in the cities, along the sea coast, in the country.
9. More than one-third of the population of Hawaii is urban, rural.
10. The white man in Hawaii as manager of the native laborers is unsuccessful, successful.
11. Hawaii offers many opportunities for the poor man, rich man.
12. Land owners find that best results are obtained from the small farms, plantation system.
13. Compared with many western states Hawaii is an old settled land, very recently settled.

14. Honolulu owes its importance to its factories, excellent harbor.
15. Hawaii was not a united country 100, 150, 250, years ago.
16. A few soldiers, merchants, sailors settled there.
17. Kamehameha was wise, unwise ruler.
18. He encouraged agriculture, fishing, mining.
19. A great number of people died of disease, war.
20. Hawaiians are increasing, decreasing in numbers.
21. Missionaries went to Hawaii from New England, France, United States.
22. Hawaiians live in sod, grass, stone houses.
23. Vast sugar, rice plantations have developed.
24. Chinese brought leprosy, small pox, cholera.
25. Where rainfall is moderate grass, trees, grew.

TEACHING THE SHAPE OF THE EARTH

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In education, progress may be measured by the race in which practice is in constant pursuit of modern accepted theory. In some studies practice is on the very heels of theory, in others it lags so far behind that some teachers unconsciously remain old-fashioned and justify their antiquated methods rather than make the necessary changes. There is a large body of teachers using obsolete methods in geography, whose sincerity and honesty of purpose cannot be doubted. They thoroly understand modern theory as such, but draw the conclusion that practice in the classroom necessarily is a different matter.

Let us analyze the situation in order to determine some of the causes responsible for this misconception. In all school systems there must be supervision. Unfortunately the teacher often looks upon the principal as an inspector. The principal, in turn, takes the same attitude toward the district superintendent. The system is pyramidal. Thus supervision in many cases resolves itself into a checking-up process in order to determine whether the subordinate is maintaining the proper standards of instruction. This is measured in most cases by pupils' percentages in tests. All that is left for the teacher is to secure good class ratings. The teacher communicates this percentage worship to the pupils and in turn they seem to think that the sole source of happiness in school lies in the acquisition of percents and not in the securing of knowledge. When teaching, the subject is viewed as a mass of facts which

must be absorbed by the pupils, either thru their telling or thru the use of the book.

Why should we make of our children "encyclopedic sponges," absorbing in many cases unassimilated information? They need not know everything. Knowledge is divided into two classes: that which we must have for our immediate use, and that which we must know where to get, when we want it. In geography, as it is taught by many teachers, there is entirely too much *WHERE* and *WHAT* and too little *HOW* and *WHY*. At the end of the semester the children finish the term's work, but the chief thing which remains is not the geographical thought but the mark obtained. This in turn "fortunately" is forgotten in the succeeding struggle for ratings. Hence geography is often called the "sick man" of the curriculum.

LOGICAL VS. PSYCHOLOGICAL

The difference between the old and the new methods of teaching geography may be summed up in the words—the logical versus the psychological. If we are dealing solely with subject matter, we must consider everything from the logical standpoint. But in all elementary teaching we are dealing primarily with the child, and the subject matter must be fitted to the child. It must be arranged and taught in a psychological manner. Here the question of interest is paramount. One cannot expect children to learn anything in the true sense of the word if they are not interested in the subject. Of course, they will "learn" if they are constantly reminded of the consequences of obtaining a poor mark. This psychology is very important in training animals. Effort on the part of the pupil always follows interest. Effort secured by artificial motivation, generally bridges the gap between teacher and pupil, with antagonism or with a friendship, the sole basis of which is a satisfactory rating. It is the difference between having to do something and having something to do. In our work we must start with the child and proceed to the facts. It is education versus indoctrination.

FALLACIES ILLUSTRATED

It is my purpose to demonstrate the fallacies of some of the methods of teaching, which today seem to predominate, and then

contrast these with the psychological approach. I have selected as a subject, "The Shape of the Earth."

The question of whether the shape of the earth is to be taught in the early grades need not concern us. That is a worth-while discussion. At present teachers are required to give lessons on the shape of the earth to young children, therefore, let us follow the advice of the Great American who said, "Do the best you can, with what you have, where you are."

A few weeks ago, I had the pleasure of observing the following lesson in a 4A grade. The teacher aimed to prove that the earth was round. She started with a large black globe. "Children, let us suppose that this represents the earth. Here is a paper boat" (the kind constructed by children in the lower grades). She placed the boat on the side of the globe hidden from the view of the children. "Now the boat is out of sight." Gradually she moved it over the surface of the globe until the uppermost part of the boat came into view. This process was continued until the hull of the boat was in view. Then the teacher "elicited" from the children that as the boat approached we first saw the top, then the middle, and finally the whole thing including the hull. This "proved" that the earth was round.

This is merely an unsuccessful as well as a stupid attempt to teach inductively under impossible conditions. She has *TOLD* the children that the earth is round because we see certain parts of a paper boat as it proceeds toward us on a slated globe. Logically she has assumed that the globe represents the shape of the earth and has done nothing to prove the correctness of her assumption. Inductive teaching does not begin with the assumption of the desired generality. If this lesson be truly inductive, it reaches its completion as soon as the shape of the earth has been "proven." This is "accomplished" at the very start when the teacher assumes the entire problem by presenting the black globe to the class. Why continue? There is no sense in running after a trolley car when you have caught it. When you strike oil, stop boring. From the psychological standpoint there is no particular value in arguing after the conclusion has been reached.

Many teachers try the same lesson in another but more logical manner. They begin by calling attention to the views of an approaching ship at different distances. While this may be interesting, very few children ever have the opportunity of observing this

phenomenon. The teacher takes too much for granted. Very few children, comparatively speaking, live near the ocean. In the case of New York City, suppose all the children have been at the beach (ocean) at one time or another, it takes for granted, that there was a ship engaged in the dangerous operation of approaching the beach, that the water was sufficiently calm, that the visibility was good, and that the child was observing the ship; and that if all these conditions were met, it presupposes that the child was observing the ship with one specific academic purpose in mind.

It seems rather far-fetched to think that children, in going to the beach for recreation, are going to concentrate on school subjects or wait until a ship presents itself for observation. The teacher may succeed in securing 100 per cent answers to the question of the shape of the earth, but the child knows that *his* world is flat. To him the world is round in the school but really flat "after three o'clock."

All good teaching must start with the child and go to the subject matter of the lesson. In the above mentioned type, the teacher begins with something absolutely foreign to the child's mind. This is indoctrination. The words or correct answers may reach the children but it is a matter of conjecture whether the true concept of the shape of the earth is ever imbedded in the child's mind. This type of teaching is merely superficial. It simply helps to increase the gap between school and life.

Some time ago I heard an "inductive lesson" to which the children were exposed. The teacher began by showing a small rubber ball. This was placed in front of a sheet of paper and exposed to the sunshine. "What is the shape of the shadow of the ball on the paper?" "Round," the children replied. The teacher placed the ball in different positions calling attention to the shape of the shadow, which at all times was a circle. "Yes, children, a ball is the only object which casts a circular shadow in any position. This is the case of the earth's shadow on the moon. It is always circular. Then what must be the shape of the earth if its shadow on the moon is always circular?" "Round, like a ball," was the reply. "Yes, children, the earth is round."

Let us examine the analogy between the rubber ball experiment and the sun, moon and earth. The experiment was conducted in daylight and the shadow on the moon is generally "discerned" at night. The flat paper which catches the shadow of the rubber ball

is compared with the moon. The round, wholly visible rubber ball is compared with the earth, part of whose flat expanse only is seen by the child. Children when looking at the moon are interested chiefly in the illuminated parts and less in the "invisible" shadow. The shadow on the moon is seldom seen as a perfect circle; whereas, the rubber ball casts a perfect circular shadow at all times. Children who are capable of grasping such an analogy hardly need the services of a teacher.

The earth's shadow on the moon is indeed an excellent proof of the shape of the earth. However, it is quite impossible to use this fact for a lesson in the lower grades. It is practically beyond children to conceive any relationship existing between the sun, moon and earth and the teacher's experiment. While such a lesson may be logical, it lacks the most important element. It is not psychological. The gap in the lesson between the teacher's faulty technique and the meager comprehension of the little children, is so great, that one could not expect very much to register in the children's resulting knowledge. However it is at least an honest, logical attempt.

In regard to teaching the shape of the earth by means of circumnavigation, very little time need be wasted after reading the previous attempts at induction. Recently I heard a teacher "prove" the earth was round by circumnavigation on a flat map of the world. After the lesson, I questioned the pupils and many of them firmly believed the earth was shaped like a cylinder. Some teachers maintain that the children show signs of intense interest when this proof is submitted in the above manner. This argument is no criterion. A great educator tells us "I sometimes hear of dulling devices extolled on the ground that children show so much interest in them. That's the pity of it all. The mind cut off from worthy employ must seek relief in what is left." While interest is an absolutely necessary factor of a good lesson, yet all subjects which interest children are not necessarily worth while.

Most of these methods are used not because the teacher lacks intelligence, but merely because of a chronic educational disease which seems to permeate every branch of our school system. Great educators tell us school is life. However, it is not disclosing a secret to state, that there is a wide gap existing between school and life. I should like to dwell on this subject at length, but I feel that it would be out of place in this aricle. Why should we

try to do the impossible? There is no unwritten law which states that all lessons must be taught inductively. Let us apply the same common sense in school matters, which we ordinarily use in life. If we haven't the car fare, we must steal a ride or walk. The proper thing to do is walk. In this particular lesson on the shape of the earth, if we cannot genuinely reach the child logically, we must use the psychological method. If it is impossible to give the child a real conception of the earth's shape, because he cannot conceive it, then tell him the shape and "verify" it by different observations. After many hours of actual demonstration with classes I feel that the following lesson which I humbly present is a proper approach to the subject. Previously, the children have studied the geography of their locality—in this case New York City.

A Correct Approach Illustrated

"Who knows why Columbus set sail? What did he believe was the shape of the earth?" (Round) Present the slated globe to the class. "*This* is the shape of the earth. What is this form called?" (Ball—Sphere—Globe) Tho the child accepts this statement and admits the earth is round, yet he knows that it is flat or hilly or mountainous in his world outside of school.

"It seems queer that the world is round and yet it looks so flat. Suppose it were flat, what would happen if we were to keep on traveling in one direction? Would we reach the start?" Demonstrate with a flat cardboard. Show them that there would be an end or margin to the earth and that it would be possible to fall off. Remind them of the views of the people at the time of Columbus, the stories of open-mouthed monsters who waited at the ends of the earth for people to fall into their clutches. "Therefore, the earth is not flat for it has no ends." At this point the child admits the world is round. It looks flat but could not be flat because it has no ends. Nevertheless deep down in his heart he clings to the theory of flatness of the earth because he has never seen any of the so-called curvature. He has seen a great deal of its flat expanse. This idea must be corrected.

"I wonder about how much land we could see if we stood on the roof of the Woolworth Building. If your eyes were very good let us suppose you could see over a span of fifty miles. This distance on the globe is really so big (Mark a tiny spot with chalk on the slated globe). This spot is much larger than all the land you

could see." Show them the size of New York City on the political globe as a proof of your statement.

Draw as large a circle as possible on the blackboard with a sharply pointed piece of chalk. "That is the shape of the earth. What did we call that shape? (Ball—Sphere—Globe) That is round." The circle should be about three feet in diameter. (Fifty miles of the earth's surface would be represented by a line so big —about a fifth of an inch.) Indicate this small line on the circumference of the circle using chalk of a contrasting color. "That, (pointing to the small colored mark) is about how much of the earth you can see at one time if you were on a very high building." Erase the circumference piece by piece each time stopping to ask if the remaining part is flat or a part of a circle. The children will insist that the remaining line is curved no matter how flat it may appear. Finally you convince the children that the piece of circumference remaining, representing all they can see at any one time does not look round but actually is a part of a big circle. "Is the earth round? (Yes) Then why does the earth look flat?" (The earth appears flat because we see only a very small piece of it.)

A second method may be used to fix firmly the thought in the child's mind. Have the children look thru a paper tube of small bore (made by rolling a sheet of paper) held close to a large globe. "Does the part you see look round?" (No) "Why?" (Because you see too small a portion of the globe.)

The next lesson on the earth may be taught to develop the dimensions of the earth. When a child looks at the smooth globe he cannot appreciate it because he finds no evidence of great mountains which he has seen or about which he has read or heard. It is, therefore, necessary to help him to a correct concept. Make a large circle on the blackboard, representing the earth. Ask the children to determine the distance called the diameter. Encourage their using the book. Then have them point off (on the blackboard) the radius 4,000 miles. Have them divide the radius into four parts, each being 1,000 miles. Keep on subdividing until you reach five miles. When the children see the relative size of five miles, ask them to mark a mountain of that height on the surface of the earth (circle). Remind them that this represents about the height of the highest mountain. "Can you really notice it from your seats? (No) Why can't you notice it?" Emphasize the

relation between the height of the mountain and the diameter of the earth. With the help of the textbook let them discover the number of miles in the earth's circumference.

SUMMARY

In this lesson, no attempt has been made to *prove* the shape of the earth. Briefly the lesson may be stated as follows: The earth is round. I know it appears flat but that is because we see too small a portion to appreciate its curvature.

The language used is specially adapted to children in the lower grades. The lesson can be taught within the span of thirty minutes. It has been planned for New York City children but can be altered to suit any locality. The lesson makes a point of reconciling the child's observations outside of school with the knowledge taught in the classroom. Thus we avoid increasing the already too large gap between school and life. Finally the lesson emphasizes the psychological instead of the logical—the child rather than the subject matter.

It is indeed very difficult to write a model lesson. The most important element, the personality of the teacher, cannot be expressed in print. A real teacher is an artist and his talent is highly individual. It would therefore be presumptuous on my part to expect a pedagogic artist to approve of my particular manner of teaching in every detail. Every teacher possesses a style of his own. This article has for its primary purpose a desire to inspire the members of our profession with the thought that teaching geography is teaching *children* certain ideas, which are part of the life *they* are living, and not merely teaching them the facts of the geography book in order to satisfy a superior as to one's ability to obtain high averages from the class. Let us remember that there is a greater aim in teaching, than converting pupils to percentage worship which neither helps them to lead richer lives nor to become better men and women.

THE "WHY" OF GEOGRAPHY EXHIBITS

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When the use of concrete geography material in the classroom is discussed, several questions are immediately asked: *WHAT* shall we get? *WHERE* shall we get it? *HOW* shall we use it? Interesting as these questions are, there is another just as important. It is the question of objective, of ultimate purpose, the big *WHY* of the subject. *WHY* do we use concrete materials in the classroom?

We use them because we believe, all of us, in what might be called, "The Psychology of the Actual." We believe a warm, soft, live, little rabbit in a child's hands is worth two in a textbook; that a spark struck from flint is more illuminating than a descriptive paragraph; that the most interesting things about a plum is not the information that it is a development of the seed drupe, but the sight of its blueness and bloom, the feel of its shape and smoothness, the scent of its fragrance, its sweetness, its lusciousness, its flavor. We believe, in other words, that sensory experience is the basis of all knowledge.

We believe, but we forget; we assent, and then we ignore. We need to recall now and then some of the simple facts that are often overlooked about the beginnings of geography training in the home, the kindergarten, and the elementary school.

SOUVENIRS

Perhaps the first and simplest contact with concrete geography material comes thru the souvenir. We all possess them. There are hundreds in every home. They may be derided and ridiculed, but they do not cease to flourish. They seem to satisfy a genuine human need.

You may recall Pa in Eugene Wood's "Back Home." He says to Ma, "Niagara, Ma, don't you remember? That's where you bought those red glass cups." We can fill in the story. We know that Ma had a wonderful time at Niagara, that she just had to buy something to help her recall the pleasant experience. Every time she looks at the cups, by the law of association, back comes the remembered pleasure. The souvenir carries its psychology in its name. It is, obviously, a mnemonic device.

Those pretty red glass cups have another use. They make Niagara as a place name familiar to Ma's children and to Ma's grandchildren. Is there a child in the world who wouldn't rather drink lemonade out of the red glass cup that Grandma brought from Niagara than out of the ordinary glass cup that came from the local "five-and-ten"? *WHY?* He gets a sense of two mysteries, of *Hereness*, of *Other-Whereness*. He holds in his hands a tangible link between the two. There is somewhere in the world a wonderful place called Niagara. To go there is a pleasant and memorable event. He, by proxy, has been there, and here in his hand is the evidence.

Every time school children bring into the classroom the simplest of souvenirs, the handkerchief Nancy's grandmother sent from California, the calendar from Tony's uncle in Italy, the shiny gold bracelet from Coney Island, they are helping to prove geographic reality. They are also adding place names to the geography vocabulary. Count the names in any two-book text, and see if you think you can afford to ignore the humble souvenir, the simplest of mnemonic devices.

CURIOS

Next up the scale comes the curio, and again the psychology shows plainly thru the name. The curio is something curious, it is an excitant of curiosity. In the English language there are two altogether romantic phrases: "Once upon a time, long, long ago," and "Over the hills and far away." The curio may transport us to both of these romantic realms. Have you been, as a child, in one of those thousands of New England homes where Grandpa was a sea captain? What did you do? You fingered the shark's tooth and the ostrich egg, blew into the conch shell, smelled the sandalwood box, waved the delicate ivory fan, hung the coral string about your neck. You had a vivid sensory experience, and you had a pleasurable emotional experience. You felt yourself in direct contact with romantic adventure in remote lands where everything is strange and wonderful, where eggs are twice as large as coffee cups, where trees grow perfumed wood, and where insects produce necklaces for little girls. You realized that there were charmed lands to be visited by those who have courage for adventure. Some of the charm crept over you. Your eyes grew dreamy, and your spirit traveled far and free. It seems queer, doesn't it, that nothing feeds the fancy like the real?

The other day I noticed four or five sixth grade boys who were staying after school to put away lantern, slides, and chairs, after a visual education period. They didn't start for home immediately. They clustered around a table where there were a lot of sea curios. They held the great shells to their ears. They rubbed the rough coral against their cheeks. One even touched it with his tongue—I inferred that he was not exploring for germs, but that he was collecting his iodine ration. They held the seaweed to the light, they pricked their fingers with the sea-horse and the sea-urchins. Shall I confess the appalling truth? Not one boy turned to the map to locate the spot where these treasures were found. Not one came to me with a flood of eager questions. They were absorbed in the immediate sensory experience. They were very still, very intent, and there were, if I am not mistaken, dreams in their eyes. Poor youngsters, fed upon words when they are hungry for concrete realities. Reading about it when they are so splendidly equipped for getting facts at first hand. Denied the raw material of science and poetry, of literature and life.

Once, when I was a little girl, my Uncle Jim, somewhere in parts unknown, put on a diver's suit, fished up some sponges, and sent me one of them. It was very flat, very dry, very dingy. My mother told me to get a basin of water and wash it out. There was sand in it, and sea grit, and one or two infinitesimal shells exquisitely finished. As I soaked it and squeezed it, the harshness departed, the sand dropped out; it developed a gracious rotundity, a pleasing softness, it grew to be a highly desirable companion of the bath. That was a very real sponge, not a paragraph on page forty-eight.

Anyone who is too old to enjoy splitting mica with his thumb nail, or dividing rock salt into neat little cubes and letting one dissolve on his tongue, is really too old to teach school. He is too old to be companionable with his grandchildren. He ought to stay in a corner with musty books and let living children alone.

Geography, not yet definitely localized, but very vividly felt, dwells right at the heart of the curio. Welcome into the schoolroom the dried starfish, the empty shell, the armadillo basket, the rattlesnake's tail—they are the lawful excitants of geographic curiosity.

GEOGRAPHIC SYMBOLS, OR PRODUCTS TYPICAL OF A REGION

Next come those objects which are so typical of a particular region that they become geographic symbols. A symbol is an abbreviation—it says a good deal, and says it with commendable brevity. During the year some child in every classroom is almost sure to bring to school a small alligator. A young alligator is a definitely localized curio. He is a geographic symbol. He tells of great stretches of wild marshland where monsters of prehistoric ugliness flounder about. He symbolizes the Everglades of Florida. A young alligator may not have much economic importance, but he has valuable geographic suggestiveness.

When we come to the next stage, that of type products, so important that they serve as the key to a whole region, we are upon firm ground. Now we turn from incidental, unconventional, informal teaching to highly organized scientific education. We may use all the up-to-date weapons against ignorance that are in the pedagogic arsenal. Projects, problems, type studies, unit studies, and all the rest, may group themselves about any important typical product of any region.

An analysis of three leading texts reveals the fact that, leaving out technical terms, 95 per cent of the remaining topics may be classified in two groups—locations and products. Suppose that a teacher should become an ultra-enthusiast on the subject of concrete material for geography teaching, suppose that she enlisted all the child energy under her control in making collections, studying products and processes, locating regions of growth, manufacture, and consumption, tracing routes of distribution. She could cover 95 per cent of the text and receive, probably, very little criticism—except from the janitor. I do recollect that a small girl once said to me, "My father is awfully funny. He said, 'Why don't you get a big moving van and move everything there is in the house down to school, and be done with it?' " But nobody paid any attention to father's feeble protests.

Let me quote from a recent book—"The Psychology of Elementary School Subjects" by H. B. Reed. "Review of the places of production and the routes of distribution of important products have the advantage of giving both the location and their use. If the child studies these for such products as wheat, cotton, oranges, bananas, coconuts, coffee, canned fish, wool, iron, coal, petroleum, and fur, he will meet nearly all the places of importance on the

earth. He will touch the principal climates, occupations, routes of travel, manufacturing processes, forms of transportation, cities, countries, land and water forms, that are described in geography texts. Furthermore, he will get a connected story about each product, a factor which is in itself a valuable aid to learning." Mr. Reed writes as an educator, summarizing the conclusions of geographers whose specialized knowledge he respects. The bibliography that follows the chapter contains many well-known names.

SUMMARY

Let us bring together some of the reasons why a living school should have fresh, concrete geography material arriving every day in every classroom. Souvenirs of the humblest sort bridge the gap between home and school and between here and elsewhere. They give the children a natural growing vocabulary of place names. Curios compel attention and fix themselves in the memory. Since ancient times they have fed human interest in foreign lands and strange peoples. Geographic symbols are a valuable kind of shorthand. They tell at a glance geographic facts that would require many words for complete language expression. Type products, systematically studied from good geographic collections, lead to a well-organized body of knowledge about climatic conditions, economic needs, and commercial relationships.

The old pedagogic rule—proceed from the concrete to the abstract—is often wrongly interpreted. Does it mean that children must, at an early age, take a leap from the concrete as from a spring-board, rise into the empyrean and stay there? It does not. We must all travel from the concrete to the abstract, from the abstract to the concrete, daily. We must, as Goethe says, "Test doing by thinking, test thinking by doing"; we must live in both realms. We must constantly return to Mother Earth as did the wrestler, to gain strength for the conflict in the air.

Visual education? Certainly. Also tactual, auditory, kinæsthetic, olfactory, and gustatory education—these are all provided for when we make full use of material exhibits. Why neglect so many sources of approach to the brain? Keep *ALL* the sensory processes educationally active, then children will learn more easily and with less fatigue. Such is the *WHY* of geography exhibits.

A STUDY OF SOUTH BEND AS AN INDUSTRIAL CENTER

ALICE BUNDY
South Bend, Indiana

This is a summary of a series of lessons which grew out of the realization that our pupils knew very little about the geography of our locality. We have homogeneous grouping based upon mental and various achievement tests made when they enter school and then again when they enter junior high school. Readjustments are made at any time. We have six groups in 7A. This work was done by 7A-1 and 7A-2 groups after they had completed the geography of the junior high school.

INTRODUCTION

We found that our city grew from a village of about 128 in 1830 to a city with a population of 70,983 in 1920 and now has an estimated population of 102,000; that the growth has not been by leaps and bounds, but gradual and that the gain was lowest from 1910 to 1920, when it was 32 per cent, due to the World War. In 1920 about 56,305 were native born whites and 13,391 of foreign birth. Almost every country of the world was represented, Poland, Hungary and Germany having the largest percentage. There was a small percentage of other races, about 1,000 Negroes and 18 Japanese, Chinese, and others. We made a partial list of the factories, of which there are more than 400, and a list of the leading manufactured products. A complete list would total more than 600. Then we located on maps the gateways of countries to which our leading products are shipped which gave us some realization of our world relations. The students were very much interested in a list of the rulers of foreign countries who have ordered automobiles made in our city.

PROBLEM

We made a list of some of the factors that may determine the location and growth of a city. Then thru special reports and

NOTE: This article illustrates what any able teacher may do in the field of "home geography." The grafs and map are reproduced as they were made by the children. Are you using the abundant geographical material available in your locality? We will be pleased to consider other studies of this kind.—EDITOR.

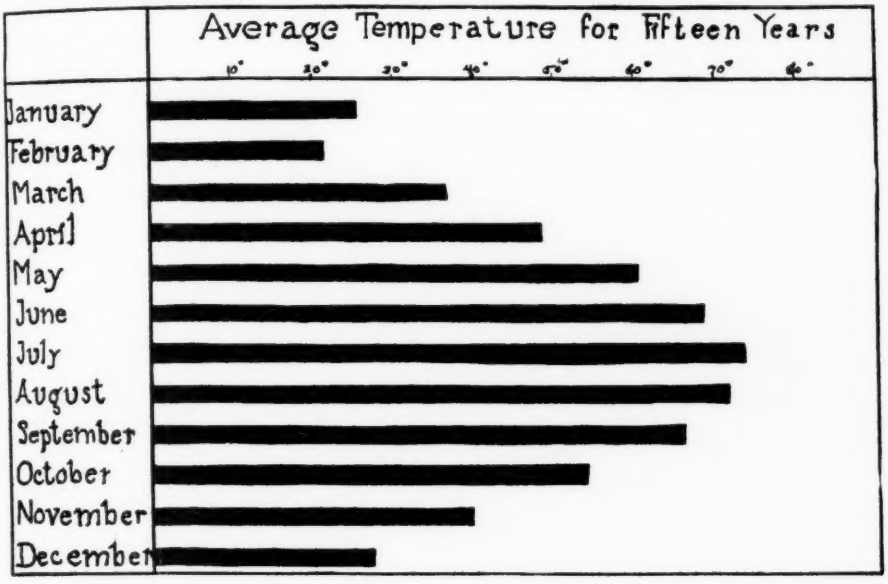
class discussions we decided that the location, growth and prosperity of South Bend was due primarily to the following factors.

Transportation

When the last glacier, that covered this area, was receding the St. Joseph River flowed into the Kankakee. Later, upon the withdrawal of the ice sheet and the lowering of Lake Michigan, it changed its course to the northwest and emptied into Lake Michigan, leaving a stretch of lowland about four miles in length which served as a portage between the rivers for La Salle, the Indians, missionaries and traders. At the present time there is a well-defined channel connecting the rivers. This had been pointed out

to some of the children. A fur trading post, the first white settlement, was established by Alexis Coguillard in 1824, under the control of John Jacob Astor, on the southernmost bend of the St. Joseph River. Here furs and other products were brought from the land to the south for shipping, and later ferry boats were used for crossing at this point. Up to the time of the Civil War, South Bend was a river port. At first freight was shipped on flat boats, barges and keel boats built like canal boats and propelled by poles. The pupils were interested in finding that the rivermen lived on the keel boats, washing, and cooking, and sleeping aboard. Then later steamboats that carried passengers and freight appeared. Outgoing cargoes were grain, maple sugar, furs, lumber, ties, wood, wool, and incoming were hardware, tools, furniture and merchandise of all kinds. The stream had a more constant flow at that time on account of the forests holding moisture and snow for a longer period.

Michigan Road, a public highway, planked and corduroyed in places, was built from Madison on the Ohio River to Lake Michigan in 1832. This highway formed a crossing with an east and west highway and gave a route of trade to Cincinnati. Since it is located in the center of a number of large cities, it became a railroad crossing and later an interurban center and bus center. One of the most important factors in determining its location and development was breaks in transportation and development of means of transportation.



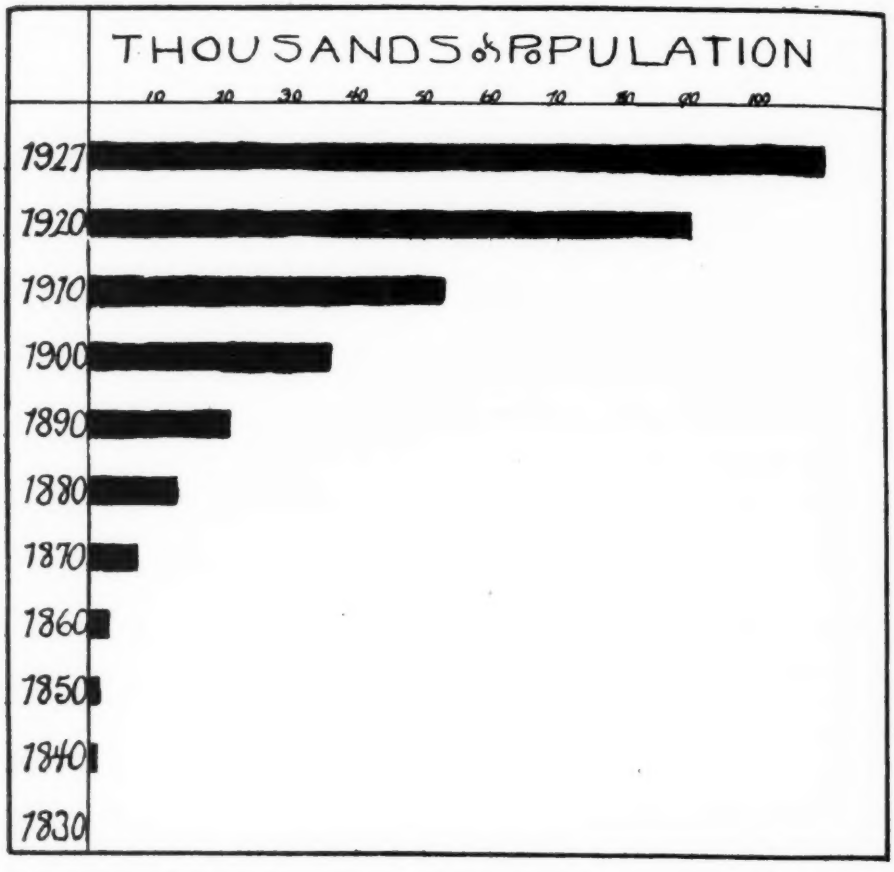
WATER POWER

Another important factor affecting the growth of the village so that it is now the largest industrial center in Northern Indiana is the inexhaustible water power furnished by the St. Joseph River. This river has about 400 lakes in its drainage basin, which vary in size from five square miles to one eighth of a square mile and form a natural storage for water.

ACCESS TO RAW MATERIALS AND MARKETS

It lay in a hardwood area which furnished timber for the early manufacturing. The forest land is now cleared and, owing to the many types of soil, is suitable for trucking. Dairying is carried on extensively for the markets of South Bend. Raw materials are

near and can easily be transported: iron, copper, coal, salt, and wool from Michigan; cement, petroleum and farm products from Illinois; wool, clay, tobacco and farm products from Ohio; lumber and grain from Wisconsin; coal, petroleum, coke, steel, clay, stone and farm products from our own state. The industries of South Bend found ready sale for the wagons, plows, automobiles and



other manufactured products, in the farming area of the Middle West. At present the markets have extended to foreign countries. Exports are shipped to New York City in about three days, to New Orleans in five days, and to the Pacific in eleven days. Some of the products are routed by the Great Lakes.

OTHER FACTORS

It is located in the center of mucky soils of southern Michigan and northern Indiana which produces about 80 per cent of the

world's supply of peppermint. It is located on a table of land well fitted for building purposes. The character of the soil makes for good drainage. The pure water supply from artesian wells and the energizing climate are two of the important factors in its growth. The beauty of the river, with its clear water and foliage growing up to the water's edge, makes it a better place in which to live.

In connection with the study maps and grafs were made and a number of individual problems were worked out. The pupils were interested from start to finish and I believe that now they have a deeper pride and greater interest in their home city.

COMMERCIAL GEOGRAPHY

MARION J. CROMWELL

INTRODUCTION

The following course of study is being used in the Memorial High School, Roxbury (Boston), Massachusetts, in the Sophomore year (tenth grade). Its aim is threefold: (1) geographical, (2) social, (3) statistical, and may be accomplished by several equally good methods of presentation, any one of which will bring out the required points of the course of study, and give scope for the use of the teacher's own individuality, preparation and material at hand. The geographic aim is to emphasize the effect on man of the geographic conditions with which he is confronted or by which he is aided—the effect on him as a producer, transporter and consumer of the world's goods. The social aim is to show the interdependence of the many and varied social groups engaged in the production, transportation, and use of goods, and instill a respect for the "other half," geographically speaking. The statistical aim is to equip the pupil with such salient facts as may be necessary to him in his future work, such as locations of commercial cities, leading production areas, etc.

There are approximately six hundred girls in our Commercial Geography Department, devoting three periods per week to the subject during one school year. Owing to limited time no allowance is made for laboratory or field work, both of which are at the discretion of the individual teacher and on the pupil's own time.

Our pupils come from our own ninth grade class and from the junior high school ninth grade class, Boston being on a combined 8-4 and 6-3-3 basis. Their background is that of the regular grammar school course—progressive regional treatment of the subject extending thru the eighth grade.

OUTLINE OF CONTENT

I. Geographic background
   A. Topographic development of regions studied, if such development has materially affected the commercial progress of those regions
   B. Review of zones
   C. Review of wind systems
II. Primary production
   A. Effects of geographic conditions in general on primary production
   B. Illustration of effect of geographic conditions thru study of leading commercial products
   C. Production of definite regions, to illustrate geographic controls
III. Transportation
   A. Centers of trade
      1. Name
      2. Location
      3. Reason for trade center at this particular place
   B. Land trade routes
      1. Tracing of routes
      2. Reason
      3. Historic phase
   C. Ocean trade routes
      1. Tracing of routes
      2. Reason
      3. Historic phase (history of commerce)
   D. Methods of transportation used
      1. Names (canal boats, airplanes, trucks, etc.)
      2. Physical conditions which lead to adoption of a particular means of conveying goods
      3. Distinctive means of conveyance used in specific regions
IV. Manufacturing (secondary production)
   A. Physical conditions—location of supply of raw materials—transportation facilities—location of market, as factors determining place and type of manufacture
   B. Intensive study of particular industry
      1. Raw materials required, processes, means used for transportation, markets catered to, contributing industries, dependent industries
      2. Part played by geographic controls in all phases of the industry
V. Consumption of goods
   A. Geographic conditions which affect the amount and type of goods used
      1. Conditions favoring purchasing of outside commodities
      2. Conditions hindering or prohibiting purchases from other regions
   B. Means used by man to overcome geographic difficulties in procuring goods from other regions

C. Effect of fashion, war, trusts, political policy upon demand for goods of home region or other regions

VI. Regional study of production, transportation and consumption, by countries or continents
- A. United States
- B. Mexico, Central and South America
- C. Countries of Europe
- D. China, Japan, India, Australia
- E. Africa as one unit, instead of taking each country's possessions separately

VII. Map work
- A. Maps illustrating topography, areas of production, trade routes, location of important cities, etc.
- B. Spelling—ability to spell name of city, state and abbreviation of state from dictated list of cities, the state not being given by the dictator

VIII. Special study of the immediate locality
- A. Application of principles
- B. Conclusions

IX. Suggested activities
- A. Special topics
- B. Use of the public library facilities
  Some assignment of definite points of information to be looked up in Commerce Yearbook, World Almanac, Statesman's Yearbook, Reader's Guide to Current Literature
- C. Field Work
- D. Lantern slides, moving pictures
- E. Charts and grafs

NOTE: The above outline is not intended as a progressive series of topics to be considered separately thruout the year, but as a summary of points which the year's course should bring out regardless of the textbook followed.

GEOGRAPHICAL PUBLICATIONS

Harold W. Fairbanks. **Real Geography and Its Place in the Schools.** 198 pp. Harr Wagner Pub. Co., San Francisco. 1927. $2.00

Real Geography and its Place in the Schools is a thought provoking and a thought clarifying discussion of a pertinent subject. Following other important publications by this author, it deserves and justifies time put upon its careful reading. In the light of unsettled opinions as to what part geography has or should have in the curriculum, what constitutes its unique contribution, and how its material should be presented in the schools, there could hardly be for geography teachers a more important book to consider.

The author leaves the reader in no doubt as to his conclusions as to what constitutes real geography, what should be the aim of geography, the order in which the materials of geography should be studied, the problem method, the relation of geography to other subjects of the curriculum, and the place of maps and map study in real geography. Each of these topics constitutes a chapter in which writers other than the author are quoted frankly and fearlessly.

The book makes out a strong case for such considerations as the following: That

while geography has no content which is under all circumstances its own, it is a viewpoint, actual and sufficiently important to warrant the continuance of geography study thru junior and senior high, thru college and university, if one's interest in the subject leads him on. That the true point of view is the relationship concept, in the light of which viewpoint locational and factual material are irrelevant to geography except insofar as they contribute to the interpretation of geographic relationships. That standard objective measurement must of necessity remain difficult of attainment because only interpretative material is truly geographic. That much of the study of industries as now recommended is not geographic in nature. That the topical outline, journey geography, and ordinary map study are unfortunate hangovers from the old factual or locational type of teaching. That the type study, or big unit study, is antagonistic to the study of natural regions, which is recommended as essential thruout grades five to seven. That the problem method is of paramount importance in the teaching of geography. That a simple why-question is a thought question therefore a simple problem, but that the best problems embody contrast or antithesis, and are broad enough to motivate and bring out adequate geographic study.

The tendency to drop geography at the end of the sixth grade, to lose it in social science in junior high school, and in general science in senior high school, is strongly deplored. To check such tendencies, geography teachers are urged by the author to define more clearly the content of geographic material and to standardize more fully geographic presentation in the various grades.

HARRIET SMITH

Sam Houston State Teachers College,
Huntsville, Texas

M. A. Pugh. **Resources and Trade of the Philippine Islands.** Trade Information Bulletin No. 410. 40 pp. Bur. of For. and Dom. Com., Washington. 1926. 10 cents

The fertile soils, tropical heat and rains are the principal resources that have thus far been used in building up Philippine trade. In 1900 our share in this trade was 11 per cent; in 1924 it had grown to 65 per cent. The principal products we buy from them are sugar, abaca, coconut oil, and copra, whereas cotton piece goods is the largest single item they purchase from us. Our strongest competitors in this trade are the United Kingdom and Japan. The resources of their fishing grounds, forests and mines await development. Manila is the chief port and business center of the islands. Its central location to other Far East ports has aroused the question of its practicability to serve as an entrepôt for the Orient.

Charles R. Toothaker. **Commercial Raw Materials.** 308 pp. with maps and illustrations. Ginn and Company. 1927.

Commercial Raw Materials, while not treating the products of commerce geographically, supplies a wealth of information concerning those products to the geographer and the geography teacher.

The principal products discussed are foods, beverages, oils, fats, and waxes; fibers, skins, hides, and leather; woods, gums and resins; metals and their compounds, and non-metallic minerals. The author tells what each product is, the parts of the world in which it occurs in considerable quantities, and the uses to which it is put.

Under each main topic is included a very full list of products. Only the more important, however, are discussed in detail. Indeed, the reader often wishes that more information were available concerning some of the products of which he has frequently heard or to which he is now introduced for the first time. On the whole the

author has used good judgment in the distribution of emphasis upon the several topics under a given head.

One very helpful feature of the book is its clearness of description which makes it easy for pupils to distinguish between products frequently confused as, for instance, in the case of coca and cocoa. The subject matter is presented simply, in the main is free from technical terms, and is decidedly interesting.

The author has been wise in selecting facts not only for their interest but because of their real significance.

Frank G. Carpenter and Frances Carpenter. **The Foods We Eat.** 181 pp. 1925. $.72. **The Clothes We Wear.** 198 pp. 1926. $.76. **The Houses We Live In.** 204 pp. 1926. $.80. American Book Company, N.Y.

These "Journey Club Travels" have been written for the lower grades. Each book may be used as a basic text or as a supplement to a basic text. To stimulate the child's mind, a wealth of elementary details is provided. The material is sufficiently comprehensive to permit a selection of topics to meet particular needs. The books, with numerous illustrations, are mechanically attractive.

"The Foods We Eat" contains such topics as the following: A Birthday Dinner; A Slice of Bread; A Trip to Japan; An Acre of Corn; The Story of Meat; a Day With the Milkmaid; Our Butter and Cheese; Jack's Visit to a Poultry Farm; We Go A-Fishing; A Basket of Fruit; A Visit to Our Grocery Store.

"The Clothes We Wear" contains such topics as the following: The Journey Club Meets; A Visitor From a Sheep Ranch; John's Bag of Wool; The Story of Helen's Hair Ribbon; Grandmother's Knitting Needles; A Basket of Easter Eggs; Bob's Overcoat; A Hat Show; The Prince and the Crown—a play; We Go Shopping.

"The Houses We Live In" contains such topics as the following: Driving a Log to Market; A Visit to a Stone Quarry; Metals for Our Museum; The Wonders of Glass; A Furniture Tale; The Journey Club Builds a House.

Each book centers about a group of children who organize a Journey Club. With the motto "to find out" as their guide, they take many journeys and visit farms, factories, and forests. The device used of showing the members of the Journey Club in different pictures helps the child to develop a personal interest in the varying fortunes of the club members. Numerous devices are employed to hold the interest of the child. Provision is made to re-enforce the material of the book. The child is asked to make collections for a museum, to construct things, to carry on experiments, to give plays, to make trips, and to form a Journey Club.

These books contain valuable content that is well-organized and highly motivated. They are a real contribution to geography work of the elementary schools.

MENDEL E. BRANOM

Harris Teachers College,
St. Louis

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Geographical Review	7.50	4.85
Historical Outlook	4.50	3.80
Literary Digest (New subscription to Literary Digest $5.75)	6.50	6.00
Mentor (1 yr.)	6.50	5.30
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Nature Magazine	5.50	3.85
New Republic	7.50	6.10
Popular Science Monthly	5.00	3.60
Review of Reviews (Also a book on governments of the world)	6.50	4.60
Scientific American	6.50	5.10
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The Independent	7.50	5.10
The Outlook	7.50	6.10
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Woman's Home Companion (1 yr.)	3.50	2.85
Woman's Home Companion (3 yrs.)	9.50	7.60
World's Work (1 yr.)	6.50	4.60
World's Work (2 yrs.)	13.00	9.20